COATING FORMATION BY REACTIVE DEPOSITION

ABSTRACT OF THE DISCLOSURE

Light reactive deposition uses an intense light beam to form particles that are directly coated onto a substrate surface. In preferred embodiments, a coating apparatus comprising a noncircular reactant inlet, optical elements forming a light path, a first substrate, and a motor connected to the apparatus. The reactant inlet defines a reactant stream path. The light path intersects the reactant stream path at a reaction zone with a product stream path continuing from the reaction zone. The substrate intersects the product stream path. Also, operation of the motor moves the first substrate relative to the product stream. Various broad methods are described for using light driven chemical reactions to produce efficiently highly uniform coatings.